

## **RAW SEQUENCE LISTING** **ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/628,296  
Source: OPE  
Date Processed by STIC: 8/5/2003

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE **CHECKER VERSION 4.0 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

**<http://www.uspto.gov/web/offices/pac/checker>**

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/efb/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202  
Or  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 04/24/2003



OIPE

## RAW SEQUENCE LISTING

DATE: 08/05/2003

PATENT APPLICATION: US/10/628,296

TIME: 10:08:31

Input Set : A:\P06331US01.ST25.txt

Output Set: N:\CRF4\08052003\J628296.raw

5 <110> APPLICANT: Li, Lian-Chao  
 7 Cosgrove, Daniel J.  
 11 <120> TITLE OF INVENTION: PLANT CELL WALL LOOSENING ACTIVITY OF GROUP 2/3 ALLERGENS OF GRASS POLLEN  
 15 <130> FILE REFERENCE: P06331US01  
 C--> 19 <140> CURRENT APPLICATION NUMBER: US/10/628,296  
 20 <141> CURRENT FILING DATE: 2003-07-28  
 24 <150> PRIOR APPLICATION NUMBER: US 60,399,688  
 26 <151> PRIOR FILING DATE: 2002-07-29  
 30 <160> NUMBER OF SEQ ID NOS: 18  
 34 <170> SOFTWARE: PatentIn version 3.1  
 38 <210> SEQ ID NO: 1  
 40 <211> LENGTH: 291  
 42 <212> TYPE: DNA  
 44 <213> ORGANISM: Lolium perenne  
 48 <400> SEQUENCE: 1  
 49 acaaaagtcg atttaactgt ggagaagggt tctgacgcga agacgctggt gctgaacatc 60  
 51 aagtacacga ggccagggga caccctggcg gaggtggagc tccggcagca cggctcggag 120  
 53 gagtgggaac ccatgacgaa gaagggaac ctgtgggagg tgaagagcgc caagccgctc 180  
 55 accggcccaa tgaacttcg cttcctctcc aaggggcgga tgaagaacgt cttcgacgag 240  
 57 gtcaccccca ccgccttcac ggtcggcaaa acctacaccc cagaatacaa t 291  
 60 <210> SEQ ID NO: 2  
 62 <211> LENGTH: 97  
 64 <212> TYPE: PRT  
 66 <213> ORGANISM: Lolium perenne  
 70 <400> SEQUENCE: 2  
 72 Thr Lys Val Asp Leu Thr Val Glu Lys Gly Ser Asp Ala Lys Thr Leu  
 73 1 5 10 15  
 76 Val Leu Asn Ile Lys Tyr Thr Arg Pro Gly Asp Thr Leu Ala Glu Val  
 77 20 25 30  
 80 Glu Leu Arg Gln His Gly Ser Glu Glu Trp Glu Pro Met Thr Lys Lys  
 81 35 40 45  
 84 Gly Asn Leu Trp Glu Val Lys Ser Ala Lys Pro Leu Thr Gly Pro Met  
 85 50 55 60  
 88 Asn Phe Arg Phe Leu Ser Lys Gly Gly Met Lys Asn Val Phe Asp Glu  
 89 65 70 75 80  
 92 Val Ile Pro Thr Ala Phe Thr Val Gly Lys Thr Tyr Thr Pro Glu Tyr  
 93 85 90 95  
 96 Asn  
 100 <210> SEQ ID NO: 3  
 102 <211> LENGTH: 291  
 104 <212> TYPE: DNA  
 106 <213> ORGANISM: Artificial  
 W--> 110 <220> FEATURE: *see p. 6 for error explanation*

Does Not Comply  
 Corrected Diskette Needed  
*pp 1-3, 6*

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Input Set : A:\P06331US01.ST25.txt

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W--&gt; 110 &lt;223&gt; OTHER INFORMATION:

W--&gt; 110 &lt;400&gt; 3

```

111 acaaaagtcg atttaactgt ggagaagggt tctgacgcga agacgctggt gctgaacatc      60
113 aagtacacga ggccagggga caccctggcg gaggtggagc tccggcagca cggctcggag      120
115 gagggggaac ccctgacgaa gaagggcaac ctgtgggagg tgaagagcgc caagccgctc      180
117 accggcccaa tgaacttccg ctctctctcc aagggcggca tgaagaacgt cttcgacgag      240
119 gtcateccca cgccttcac ggtcggcaaa acctacaccc cagaatacaa t                291

```

122 &lt;210&gt; SEQ ID NO: 4

124 &lt;211&gt; LENGTH: 97

126 &lt;212&gt; TYPE: PRT

128 &lt;213&gt; ORGANISM: Artificial

W--&gt; 132 &lt;220&gt; FEATURE:

W--&gt; 132 &lt;223&gt; OTHER INFORMATION:

W--&gt; 132 &lt;400&gt; 4

```

134 Thr Lys Val Asp Leu Thr Val Glu Lys Gly Ser Asp Ala Lys Thr Leu
135 1          5          10          15
138 Val Leu Asn Ile Lys Tyr Thr Arg Pro Gly Asp Thr Leu Ala Glu Val
139          20          25          30
142 Glu Leu Arg Gln His Gly Ser Glu Glu Trp Glu Pro Met Thr Lys Lys
143          35          40          45
146 Gly Asn Leu Trp Glu Val Lys Ser Ala Lys Pro Leu Thr Gly Pro Met
147          50          55          60
150 Asn Phe Arg Phe Leu Ser Lys Gly Gly Met Lys Asn Val Phe Asp Glu
151 65          70          75          80
154 Val Ile Ala Thr Ala Phe Thr Val Gly Lys Thr Tyr Thr Pro Glu Tyr
155          85          90          95

```

158 Asn

162 &lt;210&gt; SEQ ID NO: 5

164 &lt;211&gt; LENGTH: 20

166 &lt;212&gt; TYPE: PRT

168 &lt;213&gt; ORGANISM: Lolium perenne

172 &lt;400&gt; SEQUENCE: 5

```

174 Thr Lys Val Asp Leu Thr Val Glu Lys Gly Ser Asp Ala Lys Thr Leu
175 1          5          10          15

```

178 Val Leu Asn Ile

179 20

182 &lt;210&gt; SEQ ID NO: 6

184 &lt;211&gt; LENGTH: 52

186 &lt;212&gt; TYPE: DNA

188 &lt;213&gt; ORGANISM: Artificial

192 &lt;220&gt; FEATURE:

194 &lt;221&gt; NAME/KEY: misc\_feature

196 &lt;222&gt; LOCATION: (3)..(3)

198 &lt;223&gt; OTHER INFORMATION: N is unknown

202 &lt;220&gt; FEATURE:

204 &lt;221&gt; NAME/KEY: misc\_feature

206 &lt;222&gt; LOCATION: (15)..(15)

208 &lt;223&gt; OTHER INFORMATION: N is unknown

212 &lt;220&gt; FEATURE:

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Input Set : A:\P06331US01.ST25.txt

Output Set: N:\CRF4\08052003\J628296.raw

214 <221> NAME/KEY: misc\_feature  
 216 <222> LOCATION: (29)..(29) ✓  
 218 <223> OTHER INFORMATION: N is unknown  
 222 <220> FEATURE:  
 224 <221> NAME/KEY: misc\_feature  
 226 <222> LOCATION: (36)..(36) ✓  
 228 <223> OTHER INFORMATION: N is unknown  
 232 <220> FEATURE:  
 234 <221> NAME/KEY: misc\_feature  
 236 <222> LOCATION: (43)..(43) ✓  
 238 <223> OTHER INFORMATION: N is unknown  
 242 <400> SEQUENCE: 6  
 W--> 243 acnacgtaar aggtnacgtg ayctycttna cgtacnacgt gtnacgtgar ag 52  
 246 <210> SEQ ID NO: 7  
 248 <211> LENGTH: 49  
 250 <212> TYPE: DNA  
 252 <213> ORGANISM: Artificial *needs explanation - see p.6*  
 256 <220> FEATURE:  
 258 <221> NAME/KEY: misc\_feature  
 260 <222> LOCATION: (24)..(24) ✓  
 262 <223> OTHER INFORMATION: N is unknown *Please ensure all*  
 266 <220> FEATURE:  
 268 <221> NAME/KEY: misc\_feature  
 270 <222> LOCATION: (31)..(31) ✓  
 272 <223> OTHER INFORMATION: N is unknown *<213> response of Artificial*  
 276 <220> FEATURE: *or of Unknown are explained*  
 278 <221> NAME/KEY: misc\_feature  
 280 <222> LOCATION: (43)..(43) ✓  
 282 <223> OTHER INFORMATION: N is unknown *in <2207-2223>*  
 286 <400> SEQUENCE: 7 *49 section*  
 W--> 287 cyctyctara gttragtayc ttcnacgtgg nacgtgtrag tañacgtgt  
 290 <210> SEQ ID NO: 8  
 292 <211> LENGTH: 93  
 294 <212> TYPE: PRT  
 296 <213> ORGANISM: Zea mays  
 300 <400> SEQUENCE: 8  
 302 Thr Phe Gln Val Gly Lys Gly Ser Lys Pro Gly His Leu Val Leu Thr  
 303 1 5 10 15  
 306 Pro Asn Ile Ala Thr Ile Ser Asp Val Glu Ile Lys Glu His Gly Gly  
 307 20 25 30  
 310 Asp Asp Phe Ser Phe Thr Leu Lys Glu Gly Pro Ala Gly Thr Trp Thr  
 311 35 40 45  
 314 Leu Asp Thr Lys Ala Pro Leu Lys Tyr Pro Leu Cys Ile Arg Phe Ala  
 315 50 55 60  
 318 Thr Lys Ser Gly Gly Tyr Arg Ile Ala Asp Asp Val Ile Pro Ala Asp  
 319 65 70 75 80  
 322 Phe Lys Ala Gly Thr Thr Tyr Lys Thr Thr Leu Ser Ile  
 323 85 90  
 326 <210> SEQ ID NO: 9

## RAW SEQUENCE LISTING

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Input Set : A:\P06331US01.ST25.txt

Output Set: N:\CRF4\08052003\J628296.raw

```

328 <211> LENGTH: 96
330 <212> TYPE: PRT
332 <213> ORGANISM: Dactylis glomerata
336 <400> SEQUENCE: 9
338 Val Lys Val Thr Phe Lys Val Glu Lys Gly Ser Asp Pro Lys Lys Leu
339 1 5 10 15
342 Val Leu Asp Ile Lys Tyr Thr Arg Pro Gly Asp Thr Leu Ala Glu Val
343 20 25 30
346 Glu Leu Arg Gln His Gly Ser Glu Glu Trp Glu Pro Leu Thr Lys Lys
347 35 40 45
350 Gly Asn Leu Trp Glu Val Lys Ser Ser Lys Pro Leu Thr Gly Pro Phe
351 50 55 60
354 Asn Phe Arg Phe Met Ser Lys Gly Gly Met Arg Asn Val Phe Asp Glu
355 65 70 75 80
358 Val Ile Pro Thr Ala Phe Lys Ile Gly Thr Tyr Thr Pro Glu Glu
359 85 90 95
362 <210> SEQ ID NO: 10
364 <211> LENGTH: 90
366 <212> TYPE: PRT
368 <213> ORGANISM: Oryza sativa
372 <400> SEQUENCE: 10
374 Met Glu Val Ala Lys Gly Ser Ser Ala Lys Ser Leu Glu Leu Val Thr
375 1 5 10 15
378 Asn Val Ala Ile Ser Lys Val Glu Val Lys Glu Lys Gly Gly Lys Asp
379 20 25 30
382 Trp Val Ala Leu Lys Glu Ser Ser Ser Asn Thr Trp Thr Leu Lys Ser
383 35 40 45
386 Glu Ser Pro Leu Lys Gly Pro Phe Ser Val Arg Phe Leu Val Lys Asn
387 50 55 60
390 Ser Gly Tyr Arg Val Val Asp Asp Ile Ile Pro Glu Ser Phe Thr Ala
391 65 70 75 80
394 Gly Ser Glu Tyr Lys Ser Gly Ile Gln Leu
395 85 90
398 <210> SEQ ID NO: 11
400 <211> LENGTH: 96
402 <212> TYPE: PRT
404 <213> ORGANISM: Lolium perenne
408 <400> SEQUENCE: 11
410 Ala Ala Pro Val Glu Phe Thr Val Glu Lys Gly Ser Asp Glu Lys Asn
411 1 5 10 15
414 Leu Ala Leu Ser Ile Lys Tyr Asn Lys Glu Gly Asp Ser Met Ala Glu
415 20 25 30
418 Val Glu Leu Lys Glu His Gly Ser Asn Glu Trp Leu Ala Leu Lys Lys
419 35 40 45
422 Asn Gly Asp Gly Val Trp Glu Ile Lys Ser Asp Lys Pro Leu Lys Gly
423 50 55 60
426 Pro Phe Asn Phe Arg Phe Val Ser Glu Lys Gly Met Arg Asn Val Phe
427 65 70 75 80
430 Asp Asp Val Val Pro Ala Asp Phe Lys Val Gly Thr Thr Tyr Lys Pro

```

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Input Set : A:\P06331US01.ST25.txt

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```

431          85          90          95
434 <210> SEQ ID NO: 12
436 <211> LENGTH: 96
438 <212> TYPE: PRT
440 <213> ORGANISM: Sorghum
444 <400> SEQUENCE: 12
446 Gly Thr Thr Leu Thr Ile Glu Val Gly Lys Asp Ser Thr Ser Thr Lys
447 1          5          10          15
450 Leu Ser Leu Ile Thr Asn Val Ala Ile Ser Glu Val Ser Val Lys Pro
451          20          25          30
454 Lys Gly Ala Thr Asp Phe Thr Asp Asp Leu Lys Glu Ser Glu Pro Lys
455          35          40          45
458 Thr Phe Thr Leu Asp Ser Lys Glu Pro Ile Glu Gly Pro Ile Ala Phe
459 50          55          60
462 Arg Phe Leu Ala Lys Gly Gly Gly Tyr Arg Val Val Asp Asn Ala Ile
463 65          70          75          80
466 Pro Ala Asp Phe Lys Ala Gly Ser Val Tyr Lys Thr Thr Glu Gln Val
467          85          90          95
470 <210> SEQ ID NO: 13
472 <211> LENGTH: 100
474 <212> TYPE: PRT
476 <213> ORGANISM: Hordeum vulgare
480 <400> SEQUENCE: 13
482 Ala Ala Thr Lys Val Lys Phe Thr Val Gln Lys Gly Ser Asp Ala Lys
483 1          5          10          15
486 Lys Leu Val Leu Lys Ile Asp Tyr Thr Arg Ala Gly Asp Thr Leu Ser
487          20          25          30
490 Glu Met Glu Leu Arg Gln His Gly Ser Glu Glu Trp Glu Pro Phe Thr
491          35          40          45
494 Lys Lys Gly Asp Val Trp Glu Leu Ser Ser Ser Lys Pro Leu Val Gly
495 50          55          60
498 Pro Phe Asn Phe Arg Phe Leu Ser Lys Gly Gly Met Lys Asn Val Phe
499 65          70          75          80
502 Asp Glu Val Phe Ser Thr Asp Phe Lys Ile Gly Lys Thr Tyr Glu Pro
503          85          90          95
506 Val Tyr Asp Ala
507          100
510 <210> SEQ ID NO: 14
512 <211> LENGTH: 98
514 <212> TYPE: PRT
516 <213> ORGANISM: Triticum aestivum
520 <400> SEQUENCE: 14
522 Ala Pro Pro Pro Val Ser Ile Thr Val Glu Lys Gly Ser Asp Ala Lys
523 1          5          10          15
526 His Leu Val Leu Gln Ile Lys Tyr Asp Lys Val Gly Asp Ser Met Lys
527          20          25          30
530 Glu Val Glu Leu Glu Gln Asn Glu Asp Trp Leu Pro Leu Lys Lys Gly
531          35          40          45
534 Tyr Ser Gly Ala Trp Glu Ile Lys Ser Asp Thr Pro Leu Lys Gly Pro

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/628,296

DATE: 08/05/2003  
TIME: 10:08:32

Input Set : A:\P06331US01.ST25.txt  
Output Set: N:\CRF4\08052003\J628296.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:6; N Pos. 3,15,29,36,43  
Seq#:7; N Pos. 24,31,43  
Seq#:17; Xaa Pos. 27

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 11

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

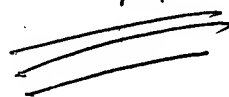
Seq#:3,4,6,7

Use of <220> Feature(NEW RULES):

*error explanation*  
Sequence(s) are missing the <220> Feature and associated headings.

Use of <220> to <223> is MANDATORY if <213> ORGANISM is "Artificial Sequence" or "Unknown". Please explain source of genetic material in <220> to <223> section (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp.29631-32) (Sec.1.823 of new Rules)

Seq#:3,4,6,7



## VERIFICATION SUMMARY

DATE: 08/05/2003

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TIME: 10:08:32

Input Set : A:\P06331US01.ST25.txt

Output Set: N:\CRF4\08052003\J628296.raw

L:19 M:270 C: Current Application Number differs, Wrong Format  
L:110 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ#:3, <213>  
ORGANISM:Artificial  
L:110 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ#:3, <213>  
ORGANISM:Artificial  
L:110 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:3,Line#:110  
L:132 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ#:4, <213>  
ORGANISM:Artificial  
L:132 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ#:4, <213>  
ORGANISM:Artificial  
L:132 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:4,Line#:132  
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0  
L:287 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0  
L:652 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:16